

ACC NR: AP7008525

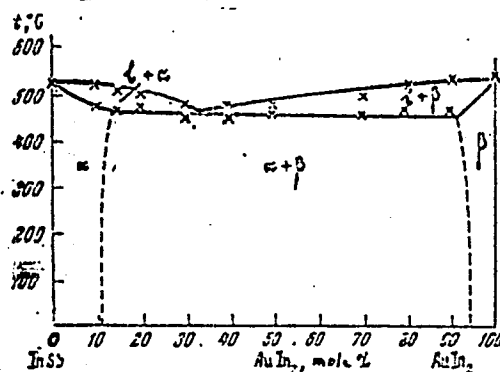


Fig. 1. Phase diagram of the quasi-binary section InSb - AuIn<sub>2</sub> of the ternary system indium - antimony - gold

SUB CODE: 07/ SUBM DATE: 01Apr66/ ORIG REF: 003/ OTH REF: 010

Card 2/2

ACCESSION NR: AP4036966

S/0078/64/009/005/1158/1162

AUTHOR: Yeliseyev, A. A.; Babitsy\*na, A. A.; Medvedeva, Z. S.

TITLE: X-ray diffraction analysis of the boron-arsenic system

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 5, 1964,  
1158-1162

TOPIC TAGS: boron arsenic system, boron arsenide synthesis, boron  
arsenic phase diagram, boron arsenide property, boron, arsenic,  
boron arsenide

ABSTRACT: Boron arsenide powders, containing 2.5, 5, 10, 20, 38, 45, 50, 53.5, 55, 60, 75, 90, and 97.5 at% As, were synthesized from powdered amorphous 99.7083% pure boron and crystalline 99.9986% pure arsenic. The obtained boron arsenide powders were annealed at 600C for 950 hr and slowly cooled to room temperature, or annealed at 800 or 1000C for 250 hr and quenched in ice-cold water. The x-ray diffraction patterns showed the existence of only

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two chemical compounds in the system: boron arsenide of the BAs composition and a lower boron arsenide whose composition, 85.9 at% B and 14.1 at% As, and density,  $\rho = 3.53 \pm 0.03$  g/cm<sup>3</sup>, are very close to those of B<sub>6</sub>As compound ( $\rho = 3.58$  g/cm<sup>3</sup>). The lines of B<sub>6</sub>As fit equally well into an orthorhombic lattice with parameters  $a_0 = 9.6896$  kX,  $b_0 = 4.3342$  kX, and  $c_0 = 3.0628$  kX, or a rhombohedral lattice with parameter  $a_0 = 6.125$  kX and  $c_0 = 11.8679$  kX. The solubility of B and As was found to be negligible in both compounds. The coefficient of linear expansion of BAs in the 20—500C range was found to be  $7 \cdot 10^{-6}$ /deg C. Orig. art. has: 1 figure and 6 tables.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 18Jul63.

DATE ACQ: 03Jun64

ENCL: 01

SUB CODE: MM

NO REF SOV: 006

OTHER: 005

Card 2/3

ACCESSION NR: AP4038966

ENCLOSURE: 01

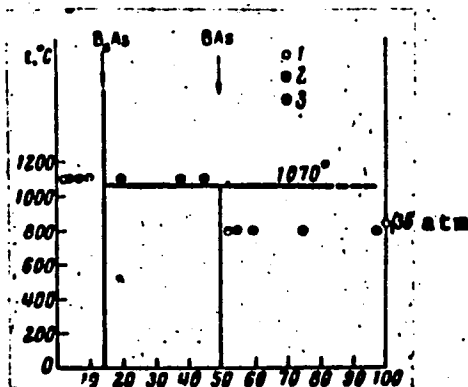


Fig. 1. Phase diagram of the B-As system

1 —  $B_6As$ ; 2 —  $B_6As + As$ ; 3 —  $BAs + As$ .

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VAN BIN-NAN' [Wang Ping-nan]; NIKOL'SKAYA, G.F.; LUZHNYAYA, N.P.;  
YEVFIMOVSKIY, I.V.; BABITSYNA, A.A.

Study of the system copper - arsenic in the  $\text{Cu}_3\text{As}$  compound  
region. Izv. AN SSSR. Neorg. mat. 1 no.9:1476-1483 S '65.  
(MIRA 18:11)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova  
AN SSSR.

Study of some semiconducting compounds and phases based on boron.  
E. S. Medvedeva, A. A. Reshchikova, A. A. Yelisseyeva, A. A.  
Babitsyna, G. D. Mitkina, Ya. Kh. Grinberg, Ye. V. Shorina.

Report presented at the 3rd National Conference on Semiconductor Compounds,  
Kishinev, 16-21 Sept 1963

BABIVKY, A.

TECHNOLOGY

PERIODICALS: JADERNA ENERGIE Vol. 4, No. 12, Dec. 1958

CHUTNY, B.: BABIVKY, A.: PETROVA, J. Chemical protection against ionization radiation.  
p. 393.

Monthly List of East European Accessions (EEAI) LC Vol. 8, No. 5 May 1959, Unclass.

ВНДІА АА

130-9-16/21

**AUTHORS:** Onopriyenko, V.P. and Starshinov, B.N. (Cands.Tech.Sc.),  
and Kharchenko, N.M., Babiy, A.A. (Engineers)

**TITLE:** Smelting Low-Manganese Pig Iron at Southern Works. (Vyplavka  
malomargantsovistogo chuguna na zavodakh yuga)

**PERIODICAL:** Metallurg, 1957, Nr 9, pp.32-33 (USSR)

**ABSTRACT:** This article is based on material presented at an inter-works study group of blast-furnace operators from the South of the USSR by G.G. Oreshkin, I.N.Kardasevich, F.N.Yurmanov, I.G.Polovchenko, N.P.Kaystro, M.N.Abramovich and N. Ye. **Dunayev.** Until recently Southern works smelted relatively high-manganese pig irons. At the Dzerzhinskiy works in 1940 a successful attempt was made to reduce smelting costs of Bessemer iron by using less manganese ores, maintaining slag fluidity and desulphurising power by increasing the magnesia content. But with open-hearth iron a ratio of (CaO + MgO + MnO) : SiO<sub>2</sub> in the slag of 1.45-1.50 had to be maintained to give sufficiently low (0.045%) sulphur and manganese (0.80-0.85%) in the iron. This practice increased productivity by 4.2% and saved 4.2% and 80% on the coke rate and manganese-ore consumption, respectively. Optimal slag basicity was 1.28-1.30, magnesia and alumina in the slag being 5.5-6.5 and 5.5% respectively and blast temperature

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Smelting Low-Manganese Pig Iron at Southern Works.

750-800°C. Special attention had to be paid to smooth operation. The low-manganese iron was liable to become resulphurised on the way to or in the mixer. At a "Zaporozhstal'" works furnace the manganese content of the iron was successfully reduced without increasing the magnesia content of the slag (4.5%) because its high alumina content secured fluidity. Reduction of the magnesia content harmed operation. At these works the general results of the low-manganese practice were unfavourable, but at the imeni Kirova works in Makeyevka lower coke rates and higher productivities resulted in most cases, though the variability of sulphur content increased. It is recommended that special attention be paid to charge preparation for smelting low-manganese irons.

AVAILABLE: Library of Congress.

Card 2/2

BABIY, A.A.; STARSHINOV, B.N.; ONOPRIYENKO, V.P.; NEZHNOV, G.N.; KUSHNAREV,  
A.P.; KONAREVA, N.V.; Prinimani uchastiyet: FLOROV, K.N.;  
BUDINSKIY, G.M.; VISOCHIN, I.Ye.; OKOLELOV, A.N.; STRIGIN, V.I.;  
AFANAS'YEV, A.A.; SAPRONOV, B.V.

Desulfurizing and dephosphorizing cast iron in the ladle.  
Sbor.trud. UNIIM no.11:90-95 '65.

(MIRA 18:11)

SOLDATKIN, A.I., kand.tekhn.nauk; Prinimaldi uchastiye: PETRUKHEIN, B.A.;  
BABIIY, A.A.; SHARKEVICH, L.D.; VYAZOVSKIY, Yu.V.; GRIBANOV, L.M.;  
KIREYEVA, K.K.; PAVLOVA, V.D.; PRISHUTOVA, V.S.

Preparation of fluxed sinter from Kerch ore concentrates. Trudy  
Ukr. nauch.-issl. inst. met. no.7:36-50 '61. (MIRA 14:11)  
(Kerch Peninsula--Iron ores) (Sintering)

VOLOSHIN, A.I.; BOGOYAVLENSKIY, K.A.; AKHTYRCHENKO, A.M.; TURIK, I.A.;  
 ZHIDKO, A.S.; LYALYUK, V.S.; GABAY, L.I.; ONOPRIYENKO, V.P.;  
 STARSHINOV, B.N.; BABIY, A.A.; SAVELOV, N.I.; Primali  
 uchastiye: TORYANIK, E.I.; VASIL'YEV, Yu.S.; SHEMEI', T.I.;  
 SENYUTA, V.I.; BONDARENKO, I.P.; AMSTISLAVSKIY, D.M.;  
 ANDRIANOV, Ye.G.; SERGEYEV, G.N.; ZAMAKHOVSKIY, M.A.;  
 LYUKIMSON, M.O.; IVONIN, V.K.; TSIMBAL, G.I.; SEN'KO, G.Ye.;  
 KONAREVA, N.V.; SOLODKIY, Yu.L.; LUKASHOV, G.G.; TARASOV, D.A.;  
 GORBANEV, Ya.S.; SUPRUN, I.Ye.; TIKHOMIROV, Ye.I.; KONONENKO, P.A.;  
 PROKOPOV, V.N.; GULYGA, D.V.; PLISKANOVSKIY, S.T.; PONOMAREVA, K.Ye.

Effect of the length of coking on coke quality and the performance  
 of blast furnaces. Koks i khim. no.12:26-32 '61.

(MIRA 15:2)

1. Ukrainskiy uglekhimicheskiy institut (for Voloshin,  
 Bogoyavlenskiy, Akhtyrchenko, Turik, Zhidko, Lyalyuk, Toryanik,  
 Vasil'yev, Shemel'). 2. Zhdanovskiy koksokhimicheskiy zavod  
 (for Gabay, Senyuta, Bondarenko, Amstislavskiy, Andrianov,  
 Sergeyev, Zamakhovskiy, Lyukimson, Ivonin, Tsimbal). 3. Ural'skiy  
 nauchno-issledovatel'skiy institut chernykh metallov (for  
 Onopriyenko, Starshinov, Babi, Sen'ko, Konareva, Solodkiy).  
 4. Zavod "Azovstal'" (for Savelov, Lukashov, Tarasov, Gorbanev,  
 Suprun, Tikhomirov, Kononenko, Prokopov, Gulyga, Pliskanovskiy,  
 Ponomareva).

(Coke)

(Blast furnaces)

STARSHINOV, B.N.; SINITSKIY, V.D.; SEN'KO, G.Ye.; GULYGA, D.V.; BABIY, A.A.;  
KHORUZHIY, A.G.; Primali uchastiye: OSTROUKHOV, M.Ya.; SAVELOV,  
N.I.; PLISKANOVSKIY, S.T.; MOISEYEV, Yu.G.; LAVRENT'YEV, M.L.;  
TARASOV, F.P.; ZAGREBA, A.V.; KAMENEV, R.D.; TKACHENKO, A.A.;  
FREYDIN, L.M.; LUKIN, P.G.; POPOV, Yu.A.; MISHIN, P.P.; KARACHENTSEV,  
M.D.; DOLMATOV, V.A.; AYUKOV, A.S.; PALAGUTA, V.P.; VYAZOVSKIY, Yu.V.;  
SOLODKIY, Yu.A.; KONAREVA, N.V.; SAPRONOV, Yu.V.; SINITSKAYA, S.K.;  
SAPRONOV, B.V.; LEKAREV, V.L.; STOLYAR, V.V.; PROKHORENKO, Z.A.;  
BANDINA, Ye.Ye.

Results of the first year of operation of large capacity blast  
furnaces. Sbor. trud. UNIIM no.11:34-46 '65.

(MIRA 18:11)

EABIY, A.I.

Philosophical views of A.D.Kotsovskii. Izv.AN Mold.SSR no.1:37-52  
'62. (MIRA 15:9)

(KOTSOVSKII, ANATOLII DMITRIEVICH, 1864-1937)(MEDICAL RESEARCH)

BABY, A.		9	
Ca		<p>Determination of the most favorable temperature for the rolling of Bessemer rails. A. Baby. — <i>Stal.</i> 6, No. 7, 77-89 (1936); <i>Chem. Zentr.</i> 1937, 1, 4012-13. — Such steels are divided into 3 classes: soft, with the C content + 1%; Mn content = 0.33-0.6%; medium hard, with this value 0.61-0.66%; and hard, with it 0.67-0.77%. On the basis of expts. on the influence of the rolling temp. on the bending strength, the mech. properties, and the structure it is concluded that the most satisfactory initial rolling temps. and final temps., resp., are for the soft steel 1080° and 915°, for the medium hard 1070° and 935° and for the hard 1080° and 940°.</p> <p>M. G. Moore</p>	
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>			

BABIY, Aleksandr Ivanovich; YERMURATSKIY, Vasiliy Nikitovich;  
KASHUTKIN, R.Z., red.; POLONSKIY, S.A., tekhn. red

[Flourishing life of a Moldavian village] Rastsvet kul'tury  
moldavskogo sela; na materialakh sela Kopanki Tiraspol'skogo  
raiona. Kishinev, Izd-vo "Shtiintsa" AN Moldavskoi SSR,  
1962. 55 p. (MIRA 16:7)

(Kopanka (Moldavia))--Rural conditions)



BABIY, A.S., inzhener.

Comparative study of some of the properties of Bessemer open-hearth rimmed steel. Stal.proizv.no.1:62-67 '56. (MLRA 9:9)

1.Yenakiyevskiy metallurgicheskiy zavod.  
(Steel--Testing) (Bessemer process) (Open-hearth process)

*BABIY, H. S.*

133-7-28/28

AUTHOR: Malinovskiy, V.G. and Babiy, A.S. Engineers.

TITLE: Investigations of the Yenakiyev Metallurgical Works.  
(Issledovaniya Yenakiyevskogo Metallurgicheskogo Zavoda)

PERIODICAL: Stal', 1957, No.7, pp. 670 - 671 (USSR).

ABSTRACT: A. Optimum conditions of sintering process. As a result of investigations carried out in co-operation with the Ukrainian Institute of Metals (Ukrainskiy Institut Metallov), it was established that on increasing the basicity of sinter to 0.9, a saving in coke of 20 to 50 kg per each 100 kg of the flux transferred from the raw state into sinter. On increasing the basicity of sinter from 0.52 to 0.87, the output of a sinter strand calculated on iron, decreased by about 6% and the strength of sinter decreases. An increase in bed height from 180 mm to 200 mm increases air leakages from 23.1 to 48.1%. An optimum addition of slacked lime for the intensification of the sintering process is 2%, which corresponds to an increase in output of 7.6%. An increase in the basicity of sinter by 0.1% in the basicity range 0.35 - 0.8 increases the output of blast furnaces by 1.2% as well as decreases the coke rate. An increase in the proportion of sinter in the burden by 1% gives the following improvement in furnace output (Bessemer pig).

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Investigations of the Yenakiyevo Metallurgical Works.

Blast Furnace	No.1	No.2	No.3
Increase in output	0.30	0.36	0.46
Decrease in Coke rate	0.27	0.32	0.36

B. Low-alloy Bessemer steel for rolling periodic profiles for fittings. The production of periodic profiles from low-alloy Bessemer steel Nos. 12 - 16 present no difficulty. Steel produced in 140 experimental heats had satisfactory mechanical properties. Steel obtained was not inferior to open hearth steel 25VC and considerably better than steel 6CT5. On the basis of results obtained standards UMTY 5503-56 were established.

C. Bessemer heats using steam-oxygen bottom blowing..

78 experimental heats using Bessemer iron containing 0.6 - 0.9% Si in a converter with a Dinas lining were carried out. The proportion of steam in blast 30 - 45%. The process is not accompanied by splashes of metal, the amount of dust in fumes - 1.5 g/m<sup>3</sup> so that gas cleaning is not necessary. The output increased by 30 - 35% in comparison with air blast. Mean consumption of oxygen and steam per ton of pig was 57.2 kg and 41.1 kg, respectively. Nitrogen content in the experimental

Card2/6 steel was 5 - 8 times lower than in the usual Bessemer steel.

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Investigations of the Yenakiyevo Metallurgical Works. .

Rolling properties of steel were also improved. Mechanical properties of low-carbon low-nitrogen steel (0.003% N<sub>2</sub>) were

considerably better than those of the usual Bessemer steel, despite a somewhat higher phosphorus content (up to 0.07%).

D. Increase in the durability of Bessemer tuyeres. From a number of tuyeres tested, the best results were obtained with chamotte-chromite tuyeres (10 - 15% addition of chromium ore). An increase of durability of 2 - 4 heats was obtained. A change in the height of tuyeres from 650 to 750 mm increased their durability by 2 - 3 heats. Changes in the positioning of tuyeres in the bottom did not produce any positive results.

E. Mastering of the operation of open hearth furnaces with basic roofs. The use of basic roofs in three 140 - 150 ton open hearth furnaces instead of silica roofs increased the durability of roofs by a factor of 2 - 2.5, decreased the duration of heats by 28 - 50 min, increased the daily output by 4.8 - 11.6%, decreased fuel consumption by 0.5 - 10.2% and decreased cold stoppages by 1.7 - 4.8%. Changes in the petrographic composition of chrome-magnesite bricks during service are outlined.

F. Deoxidation of rimming steel with ferro-manganese in ladle.

Card3/6 Deoxidation of rimming steel in ladle decreased the duration of

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Investigations of the Yenakiyevo Metallurgical Works.

heats by 5 - 10 min; ferro-manganese losses were decreased by 30% in comparison with the deoxidation in furnace. The quality of the surface of the ingot and mechanical properties of rolled sheets did not deteriorate.

G. Passes of rolling mills from a high-chromium cast iron. The use of cast iron containing 18% of chromium for roll passes of a 280 mill were 6 - 8 times more durable than those made from grey cast iron.

H. An investigation of the hardening of steel rolls by welding on. The durability of welded-on rolls increased more than twice. The method used was that recommended by the Institute of Electro-welding of the Ac.Sc. of the Ukrainian SSR imeni E.P.Paton (Institut Elektrosvarki AN Ukr.SSR imeni E.P.Paton). (No details given.)

I. Rolling of slabs cast by a continuous casting method. Rimming and killed MCT.3 steel slabs cast by a continuous casting method were rolled according to existing instructions (no details). The surface of sheets produced was better than from normal slabs and practically did not require dressing.

The yield of finished product from killed steel was 98.4% and Card4/6 from rimming steel 75%. The main defect was caused by lamination

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Investigations of the Yenakiyevo Metallurgical Works.

in places of a collection of non-metallic inclusions. Transverse rolling of slabs increases the proportion of defects caused by lamination. The mechanical properties of metal correspond to the requirements of standard GOST 380-50.

J. Rolling of ingots of modified shape. In ingots of the type VI and VII the degree of sloping of the narrow faces was decreased (data on dimensions are given). This improved the quality of heating and allowed the number of passes to be reduced (on average by 4 passes).

K. Study of the properties of steel produced in top oxygen blown converters. Properties of killed steel rolled into rails and rimming steel rolled into strip (60 x 10 m) produced in top oxygen blown converters were studied. It was found that ingots from the experimental steel in quality and rolling ability were better than those from the usual Bessemer steel. Strength characteristics ( $\sigma_B$  and  $\sigma$ ) of the experimental metal were noticeably lower than those of Bessemer steel, but plastic properties considerably higher. Mechanical properties of the experimental metal satisfied GOST 380-50 for open hearth steel of corresponding kinds.

L. An investigation of lamination in sheets from Bessemer and Card5/open hearth rimming steel. It was found that the defect was

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Investigations of the Yenakiyevo Metallurgical Works.

caused by a collection of non-metallic inclusions which are usually situated mainly in the central zone of the upper part of the ingot and in the region of secondary bubbles in the remaining part of the ingot. The proportion of defective sheets decreases with increasing velocity of teaming (with bottom casting), with a decrease in boiling time in moulds to 8 minutes and an addition of a fluxing mixture (2/3 scale, 1/3 ground sand), ground glass or ground ferro-silicon. In the case of using ferro-silicon the top part of the ingot is more uniform, which is explained by the deoxidising effect of ferro-silicon.

M. The stability of rolls from magnesium-inoculated iron. Ten broken rolls were investigated. In some cases, graphite was found to be in plate and not in nodular form; in others, the content of cementite and ledeburite exceeded 15%. Some rolls broken during mechanical treatment contained 60 - 70% of cementite (ledeburite) not only on the external surface but also in the centre. As standards GOST 4293-54 do not indicate the limiting proportion of cementite, this should be introduced for rolls from nodular iron.

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BABIY, A.S.

130-9-10/21

AUTHORS: Babiy, A.S. and Shcherbina, G.Z.

TITLE: Combating Surface Defect in Sheets (Bor'ba s poverkhnostnymi defektami na listakh)

PERIODICAL: Metallurg, 1957, Nr 9, pp.21-23 (USSR)

ABSTRACT: An account is given of an investigation carried out at the **Yenakiyevo** works to find the connection between defects in ingots (250-650 kg) and in sheets (4, 5, 6 and 8 mm thick, 1100-1400 mm wide) rolled from them in a three-high mill. Ingots were selected with particular types of defects and the corresponding sheets in which defects appeared were examined. Results obtained are tabulated, showing the proportions of the various types of ingot defects (scabs, pits, slag inclusions and sand holes) which appeared in the sheets in the same or in a different form. Of large scales 20% appeared in a different form, and the greater part appeared unchanged; most small scabs did not appear in the sheets. Most of the pits were 5-8 mm deep and these did not appear on sheets, though some pits were produced during rolling. Sand holes appeared in the sheets far more frequently than they were visible in ingots; the metal near sand holes of steel melting origin had a microstructure rich in non-metallic inclusions,

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Combating Surface Defect in Sheets.

deformed grains being visible near sand holes, produced in rolling. Slag inclusions on ingot surfaces were most frequently finely divided and in the middle part; this leads to sand-hole and pit types of defects but without non-metallic inclusions in the adjacent metal. In general the quantity of surface defects on sheets depended considerably on sheet-thickness. The method of heating the ingots also had an influence, mainly through its effect on oxidation of affected surfaces: this was checked in a special series of experiments in which ingots were arranged differently in the furnace, and in another series in which deseaming had been carried out to different extents. There are 2 tables.

ASSOCIATION: Yenakiyevo Metallurgical Works. (Yenakiyevskiy Metallurgicheskiy Zavod)

AVAILABLE: Library of Congress.

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SOV/137-58-9-18667

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 73 (USSR)

AUTHORS: Babiy, A.S., Sapiro, D.I., Zhmak, S.I., Kravtsov, G.Ye.

TITLE: On the Causes for the Formation of Cracks in Tube Ingots (K voprosu o prichinakh obrazovaniya treshchin na trubnykh slitkakh)

PERIODICAL: V sb.: Staleplavil'n. proiz-vo. Moscow, Metallurgizdat, 1958, pp 115-126

ABSTRACT: A statistical analysis of data from melt data sheets is used to determine the influence of the major procedural factors upon rejection of tube ingots due to longitudinal cracks. The following factors contribute to crack formation: After-teeming of molten pig iron, which gives rise to an increase in the temperature of the metal upon tapping (rejects from such heats come to 10.1%, 6.2% being due to cracks); an increase in the duration of the pure boil period; and increase in metal temperature. 0.85-1.1 kg Al/t for steel deoxidation, [S] within the limits investigated (0.028-0.043%), and the Mn/S ratio do not affect the quantity of cracks in ingots. Cracks form primarily as the result of failure of the linear rate of filling of the molds with metal to

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On the Causes for the Formation of Cracks in Tube Ingots

correspond to their temperature. It is found that the temperature of the metal on tapping should be 1510-1520°C in the runner (pyrometer reading), the pure boil should last <50 min, and pouring rate should be 0.15-0.20 m/min. Substitution of bunker oil for carbonaceous lacquer as the mold coating reduces ingot rejects almost 50%. Fe-Ti proved to be effective in the deoxidation of the metal. To prevent the formation of hot cracks in round ingots due to the erosion of globulite skin and the uneven distribution of metal temperature across the ingot cross section (due to a nonvertical direction of the stream on emerging from the buffer brick) it is recommended that a stream-equalizing nozzle be employed.

L.K.

1. Steel tubing--Fracture
2. Data--Statistical analysis

Card 2/2

SOV/133-59-4-22/32

AUTHORS: Tovpenets, Ye.S., Candidate of Technical Sciences,  
Goncharenko, N.I., Candidate of Technical Sciences,  
Babiy, A.S., Engineer, and Shcherbina, G.Z., Engineer

TITLE: Improvement of Mechanical Properties of Reinforcing  
Bars by Thermal Treatment (Povysheniye mekhanicheskikh  
svoystv armaturnoy stali posredstvom termicheskoy  
obrabotki)

PERIODICAL: Stal', 1959, Nr 4, pp 364-367 (USSR)

ABSTRACT: The possible degree of improvement of mechanical  
properties of St5 steel by thermal treatment and optimum  
conditions of such treatment were studied. Specimens  
from 5 heats were taken for the investigation (chemical  
composition - table 1). Parallel specimens were  
prepared from the usual rods and from rods which passed  
thermal treatment according to one of the following  
seven modifications, °C (in brackets - duration of  
cooling in water - seconds).

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80V/133-59-4-22/32

Improvement of Mechanical Properties of Reinforcing Bars by  
Thermal Treatment

I	II	III	IV	V	VI	VII
800	800	850	850	900	900	900
(3)	(9)	(5)	(9)	(3)	(9)	(12)

After hardening the rods were annealed at 500, 600, 650, 670 and 690°C. In addition a part of the rods was hardened in water after electric heating (by resistance) to 820 to 850°C and from the temperature of the end of rolling with subsequent annealing at 650°C (the duration of cooling of rods 10 to 12 and 28 mm in diameter on hardening in water was 6 and 20 seconds respectively). The duration of electric heating of rods 12 mm in diameter did not exceed 2-3 minutes at a current of 1200 to 2100 a and 12 v. Tests for strength were done at room temperature and tests for bending and impact strength also at sub zero temperatures. The macro-structure was studied on impact strength specimens in the place of the break. The experimental results are given in tables and figures. It was found that mechanical properties of reinforcing profiles from low

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SOV/133-59-4-22/32

Improvement of Mechanical Properties of Reinforcing Bars by  
Thermal Treatment

carbon steel St 5 can be substantially improved by hardening with high temperature annealing (not only the tensile and yield strength are improved but also the impact strength particularly at low testing temperatures (up to  $-60^{\circ}\text{C}$  see table 3). The influence of welding on the mechanical properties of thermally treated metal is non-uniform and depends on the method of welding (electric arc welding completely removes the improvement of mechanical properties obtained by the heat treatment while butt welding only partly removes the beneficial influence of heat treatment). The technico-economic effect of thermal treatment (table 4) with hardening from the temperature at the end of rolling is somewhat lower than on hardening from special heating to  $850^{\circ}\text{C}$  (particularly in respect of impact strength).

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SOV/133-59-4-22/32

Improvement of Mechanical Properties of Reinforcing Bars by  
Thermal Treatment

There are 5 figures, 4 tables and 6 Soviet references.

ASSOCIATION: Donetskii Industrial'nyy Institut i Yenakiyevskii  
Metallurgicheskii Zavod (Donetsk Industrial Institute  
and the Yenakiyev Metallurgical Works)

Card 4/4

18.2000

750-4  
SOV/199-59-10-5/30

AUTHORS: Malinovskiy, V. G., Babiy, A. S.

TITLE: From Investigations at Plant Laboratories and  
Institutes in 1958. At Yenakiyevo Metallurgical  
Plant (Yenakiyevskiy metallurgicheskiy zavod)

PERIODICAL: Stal', 1959, Nr 10, p 888 (USSR)

ABSTRACT: (1) In cooperation with the Ukrainian Institute  
of Metals (Ukrainskiy institut metallov), the  
production of fluxed sinter with a maximum basicity  
of 1.0, and its suitability for the blast-furnace  
process, were studied. It was found that increased  
basicity (from 0.7 to 1.0) reduced productivity of the  
belt for sinter transport by 5.5%, and for iron trans-  
port by 8.2%, owing to increased return (from 31.7  
to 35.4%). However, blast-furnace productivity in-  
creased by 3.7%. (2) Further studies in collabora-  
tion with the same institute concerned oxygen-  
enrichment for the intensification of the sintering

Card 1/2



From Investigations at Plant Laboratories  
and Institutes in 1958.

75944  
SOV/133-59-10-5/39

process. The use of preheated air in sintering Krivoy Rog ore is recommended. At 200 to 3000 C, the specific consumption of coke breeze drops by 20 to 30%. Best results were achieved by a simultaneous increase of air temperature and oxygen concentration to 23%. (3) By means of laboratory experiments, the effect of adding crushed dolomite during the sintering of fluxed agglomerate was determined. The addition of 2% of crushed dolomite decreased speed of sintering by 20%. (4) Cast iron production with decreased manganese content (from 2.2 to 1.4%) cut the production cost per ton of cast iron.

Card 2/2

18.3200

75952  
SOV/133-59-10-13/39

AUTHORS: Malinovskiy, V. G., Babi, A. S.

TITLE: From Investigations at Plant Laboratories and Institutes in 1958. At Yenakiyev Metallurgical Plant (Yenakiyevskiy metallurgicheskiy zavod)

PERIODICAL: Stal', 1959, Nr 10, p 903 (USSR)

ABSTRACT: The following research was conducted: (1) Decreased period of open-hearth melting (by 4.3%) using compressed air, and improvement of individual melting periods. (2) Development and introduction of melting techniques and pouring of semikilled BSt. 5-type Bessemer steel by determining the dependence of the ingot meniscus on chemical composition of the metal, blowing techniques, deoxidation, and pouring. A slightly curved or even surface of the ingot head is recommended as well as a maximum content of 0.12% Si, 0.050% S, and optimum carbon content of 0.20 to 0.32% in the metal. (3) Melting

Card 1/2

From Investigations at Plant Laboratories  
and Institutes in 1958. At Yenakiyevo  
Metallurgical Plant

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25G2S-type low alloy steel in Bessemer shop presented no special difficulties. Steel possesses good deformability in rolling. Tensile strength of rolled periodical profiles: 64 to 75 kg/mm<sup>2</sup>; yield limit: 43 to 50 kg/mm<sup>2</sup>; elongation: 18 to 28%; impact toughness: from 8.3 kgm/cm<sup>2</sup> at +20° to 3.1 kgm/cm<sup>2</sup> at -60° C. (4) Improvement of oxidation methods of 25G2S-type Bessemer steel by means of aluminum sleeves placed over the ladle stopper led to a decrease in aluminum consumption (0.5 instead of 1 kg/t) without affecting mechanical properties. (5) Bessemer bottom and tuyere life was prolonged by introducing chromite chamotte tuyeres, the former from 19.5 to 20.5 melts and the latter from 16 to 18.7 melts. (6) Application of air-hardening chromomagnesite concrete lining for charging door prolonged the life of the doors 2 to 3 times as compared with chamotte.

Card 2/2

18.5100

75969  
SOV/133-59-10-30/39

AUTHORS: Malinovskiy, V. G., Babi, A. S.

TITLE: From Investigations at Plant Laboratories and Institutes in 1958. At Yenakiyev Metallurgical Plant (Yenakiyevskiy metallurgicheskiy zavod)

PERIODICAL: Stal', 1959, Nr 10, p 937 (USSR)

ABSTRACT: Research concerned: (1) Rationalization of reduction rates in three-high mill with dynamometric measuring of pressure on rolls, allowed the rolling of 1400 mm sheet with a decreased number of passes increasing mill output by 8.3%. (2) Weight control of sheet bars in "800" mills and subsequent sheet rolling in two-high mills prolonged life of rolls and facilitated mill set up. (3) Life of rolls built-up under ceramic flux (ZhS-450) was 10 to 20% shorter than that of rolls built-up with electrode powdered metal PP 3Kh2V8 wire which also were considerably less expensive. (4) Life of U7-steel cutters of 700-t press for hot cutting of 150 x 150 to 180 x 180 mm intermediate rolled product was prolonged 4 to 6 times by using

Card 1/2

From Investigation at Plant Laboratories  
and Institutes in 1958. At Yenakievo  
Metallurgical Plant (Yenakievskiy metal-  
lurgicheskiy zavod)

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powdered metal PP 3Kh2V8 electrode wire for their manu-  
facture and subsequent heat treatment. (5) Dependence  
of mechanical properties of steel on chemical composi-  
tion and rolled profiles: a statistical survey of over  
10,000 open-hearth and Bessemer St3 and St5 steel melts  
testified to increased tensile strength and yield limit  
as well as to decreased elongation with growing content  
of carbon, manganese, and silicon (regardless of steel  
type). Larger diameters of round and periodical pro-  
files (from 10 to 32 mm) slightly promoted strength  
characteristics while increased thickness of the strip  
(from 10 to 25 mm) decreased them. The following  
minimum values of  $\sum (C + \frac{1}{4} Mn)$  in % are recommended  
to achieve State Standards (GOST 380-50) for open-  
hearth steel (group A, St3kp) for the rolling of various  
profiles: Round profiles - 0.25, angle iron with unequal  
sides and 10 to 16 mm thick strip - 0.26, angle iron with  
equal sides and channel irons Nr 10 and 12 - 0.27, periodical  
profile of B St5 semi-killed steel - 0.35.

Card 2/2

TOVPENETS, Ye.S.; ZARUYEV, V.M.; GONCHARENKO, N.I.; BABIY, A.S.

Effect of heat treatment over the heating needed for rolling on  
the mechanical properties of mine rails. Izv.vys.ucheb.zav.;  
met. no.4:145-152 '60. (MIRA 13:4)

1. Donetskii industrial'nyy institut.  
(Railroads--Rails) (Steel--Heat treatment)

MALINOVSKIY, V.G.; BABIY, A.B.

Research by plant laboratories in 1959. Stal' 20 no.6:523 Ja '60.  
(Enakiyev--Steel--Metallurgy) (SMA 14'2)

S/133/60/000/007/002/016

AUTHORS: Malinovskiy, V.G.; Babi, A.S.

TITLE: News in Brief

PERIODICAL: Stal', 1960, No. 7, p. 593

TEXT: 1) In the Yenakiyevskiy metallurgicheskiy zavod (Yenakiyevskiy Metallurgical Plant). In order to increase the quantity of lime added to the concentrate to 30 kg/t, a calcinating installation with a useful area of 15 m<sup>2</sup> was included in the technology of concentration. Calcination is carried out by coke gas. By grinding the lime to a size as small as 3 - 10 mm, applying a vacuum of 350 - 400 mm H<sub>2</sub>O in the machine and other improvements, the rate of calcination was raised to 70 - 75% and the output of the machine was increased. By adding 28 kg lime/t to the sinter charge with the concentrating machine, the output of the sinter belt could be increased by 4%, (the rate of calcination was increased).

2) By using 25% coal of low coking capacity (Type TFC - PS) in the fuel of the sinter charge, no considerable effect on the rate of the sinter process and the quality of the concentrate could be observed. When,

Card 1/2



S/133/60/000/007/006/016

AUTHORS: Malinovskiy, V.G.; Babiy, A.S.

TITLE: News in Brief

PERIODICAL: Stal', 1960, No. 7, p. 610

TEXT: In the Yenakiyevskiy metallurgicheskiy zavod (Yenakiyevsk Metallurgical Plant) the formation of transversal cracks and burn-outs in ingot molds and measures for their prevention have been investigated. Transversal cracks and burn-outs in ingot molds appear not only on account of the shortcomings in the casting technology, but also due to the method of cooling the ingot molds after the removal from the ingots (chain-like non-metallic inclusions destroy the metal during alternating coolings and heatings). When the ingot molds are cooled in water, the cracks appear after 7 - 17 pourings. By coating the ingot molds with graphite paints with the addition of 10% molasses and by applying top pouring and cooling the ingot molds in air (instead of water) it was possible to reduce the consumption of ingot molds from 23 to 10.8 kg/ton of steel. ✓

Card 1/1

MALINOVSKIY, V.G.; BABIY, A.S.

At the Yenakiyevo Metallurgical Plant. Stal' 20 no. 7:593,610 J1  
'60. (MIRA 14:5)

(Sintering) (Steel ingots--Defects)

KOVALEV, P.I.; BABIY, A.S.

Research being carried out by the Yenakiyevo Metallurgical  
Plant. Stal' 21 no.8:687-688,703,731 Ag '61. (MIRA 14:9)  
(Yenakiyevo--Metallurgical plants)

KOVALEV, P.I.; BABIY, A.S.

Research carried out at the Yenakiyevo Metallurgical Plant.

Stal' 22 no.9:790, 808, 834 S '62. (MIRA 15:11)

(Yenakiyevo—Metallurgical research)

BABIY, A.S.; TOL'SKIY, A.A.

New developments in research. Stal' 23 no.7:623 J1 '63.  
(Steel--Metallurgy) (MIRA 16:9)

BABIY, A.S.; TOL'SKIY, A.A.

New developments in research. Stal' 23 no.7:642 JI '63.

(MIRA 16:9)

(Rolling (Metalwork))

BRAYHIN, A.Ya.; IAD'YANOV, I.N.; MISHCHENKO, N.H.; BABY, A.S.;  
TUMILAS, V.M.; MELNIKOVSKIY, V.G.; BOVALEV, P.I.

Production of 338 silicon reinforcement steel. Met. i gornost.  
prom. no.6:67-69 N-D '64. (MIRA 18:3)

BABIY, A.S.; TOL'SKIY, A.A.; KHASIN, G.A.; DAVIDYUK, V.K.

New developments in research. Stal' 25 no.8:739 Ag '65.  
(MIRA 18:8)



SHUR, A.B.; SIVTSOV, G.V.; KUSHNEREVA, M.N.; BABIY, A.S.; TOL'SKIY, A.A.

New developments in research. Stal' 25 no.8:709-710 Ag '65.  
(MIRA 18:8)

GONCHARENKO, N.I., kand. tekhn. nauk; BABIY, A.S.; BAYDUK, V.F.;  
BAZILEVSKIY, A.R.; MISHCHENKO, N.M.; MALINOVSKIY, V.G.;  
NELEPA, V.I.; TOL'SKIY, A.A.; TRET'YAKOV, Ye.V., kand.  
tekhn. nauk; KHALIF, M.L.; PODOPRIGORA, I.D.

Smelting of steel in oxygen- and steam-blown converters with  
an acid lining. Met. i gornorud. prom. no.4:20-25 J1-Ag '65.  
(MIRA 18:10)

BABIY, B. M.

4N/5  
100.15  
.B1

Vozz' yednannya zakhidnoyi ukrayini z ukrayins'koyu RSR (Reunion Of Western Ukraine With The Ukrainian S. S. R.) Kiyiv, vyd-vo Akademi Nauk Ukrayinskoyi RSR, 1954.

193 p.

At head of title: Akademiya Nauk Ukrayinskoyi RSR. Sector derzhavi i prava.

Bibliographical footnotes.

VARETSKIY, Vasilii Lavrent'yevich [Varets'kyi, V.L.]; BABIY, B.M., kand.  
yurid.nauk, otv.red.; TIKHONOV, B.V., red.; MATVIYCHUK, O.O.,  
tekhn.red.

[Prewar socialist reforms in the western provinces of the Ukraine]  
Sotsialistychni peretvorennia u zakhidnykh oblastiakh URSR;  
v dovoiennyi period. Kyiv, Vyd-vo Akad.nauk URSR, 1960. 296 p.  
(MIRA 13:8)

(Ukraine, Western--Economic conditions)

ACCESSION NR: AP4007639

S/0211/63/000/005/0063/0071

AUTHOR: Babiy, B. T.

TITLE: Investigation of weak Fraunhofer lines of solar spectrum I. (Experimental part)

SOURCE: Solnechny\*ye danny\*ye, no. 5, 1963, 63-71

TOPIC TAGS: Fraunhofer line, line contour, solar photosphere, double diffraction monochromator, photoelectric spectrum recording, continuous spectrum, telluric oxygen line, solar spectrum

ABSTRACT: The author made his measurements on a spectrograph having an entrance slit that gave a sun image about 160 mm in diameter. The width of the entrance and exit slits was set at 0.05 mm. Observations were made with a diffraction grid, 15 x 15 cm, with 600 lines, having mean dispersions of 5.2 mm/Å for IX and 8 mm/Å for Y. Before each series of measurements (to guarantee freedom from instrumental error) the author checked the relationship of focus at the emergent slit of the monochromator to the angle of diffraction, the relationship of the inclination of emergent slit toward the spectral lines to the angle of diffraction, and the spectral-line record for photometric inhomogeneities. Lines in the 5200-6200 Å range  
Card 1/2

ACCESSION NR: AP4007639

were selected according to the following rules: 1 - blending should be absent and an unbroken spectrum should occur on both sides of the line, 2 - lines should have different excitation and ionization potentials, 3 - lines should be especially sensitive to changes in temperature or pressure, and 4 - lines should be weak. For correcting the Fraunhofer-line profiles, the author used the following values of the Voigt parameters (V. N. Karpinskiy, Soln. dannyye, No. 1, 1963): a - fourth order, Kr  $\lambda$  5870 Å  $\beta_1 = 9.1$  mA,  $\beta_2 = 0$  mA; b - fifth order Kr  $\lambda$  5570 Å  $\beta_1 = 7.4$  mA,  $\beta_2 = 0$  mA. The author prepared a lengthy table (five pages) to show the results of his work. The table indicates characteristics for the points  $\cos \Theta = 1.03, 0.22, \text{ and } 0.15$ . Values listed are for excitation potential, Rowland intensity, central intensity, half width, equivalent width, attenuation for the violet and red slopes, and the Doppler half width. Orig. art. has: 1 table.

ASSOCIATION: L'vovskaya astronomicheskaya observatoriya (L'vov Astronomical Observatory)

SUBMITTED: 00

DATE ACQ: 21Jan64

ENCL: 00

SUB CODE: AS

NO REF SOV: 005

OTHER: 001

Card 2/2

BABIY, L. T.

25878

Ekonomicheskaya otsenka razukbupneniya pasek vremya medosbora. Pchelovodstvo, 1949,  
No. 8, s. 41-44

S0: Letopis' No. 34

BABIY, L.T., kand. sel'khoz. nauk; STOLLYAR, T.A., kand. sel'khoz. nauk; ASANOV, P.M., assistant; SELYANSKIY, V.M., kand. sel'khoz. nauk; LOBIN, N.V., kand. sel'khoz. nauk; KOVIN'KO, D.A., kand. biol. nauk; MASLIYEVA, O.I., kand. sel'khoz. nauk; PETROV, V.M., kand. veter. nauk; ANAN'YEV, P.K., kand. veter. nauk; PENIONZHKEVICH, E.E., doktor biol. nauk, prof.; SERGEYEVA, A.M., kand. sel'khoz. nauk; BALANINA, O.V., kand. sel'khoz. nauk; GRIGOR'YEV, G.K., st. nauchnyy sotr.; KRIKUN, A.A., Geroy Sotsialisticheskogo Truda, kand. sel'khoz. nauk; YAROVY, P.F., kand. veter. nauk; BELOKOBYLENKO, V.T., nauchnyy sotr.; GROMOV, A.M., kand. sel'khoz. nauk; MOSIYASH, S., red.; NAGIBIN, P., tekhn. red.

[Handbook for poultrymen] Kniga ptitsevoda. Alma-Ata, Kaz-  
sel'khozgiz, 1962. 354 p. (MIRA 16:5).  
(Kazakhstan--Poultry)



BADAR'YAN, G.G.; TYUTIN, V.A.; CHEREMUSHKIN, S.D.; ZUZIK, D.T.;  
KHODASEVICH, B.G.; ELAYER, S.V.; GUSAROV, Ye.I.; KAZANSKIY,  
A.M.; KASSIROV, L.N.; KARAYEV, S.A.; AKHAROV, V.A.;  
VASIL'YEV, N.V.; BUGAYEV, N.F.; SAPIL'NIKOV, N.G.; KASTORIN,  
A.A.; RUDNIKOV, V.N.; YAKOVLEV, V.A.; PEREMYKIN, V.I.;  
ISAYEV, A.P.; KUZ'MICHEV, N.N.; IL'IN, S.A.; PRONIN, V.A.;  
LUK'YANOV, A.D.; SHAKHOV, Ya.K.; IL'ICHEV, A.K., kand. sel'-  
khoz. nauk; KOGAN, A.Ya.; TSYNKOV, M.Yu.; BABIY, L.T.;  
GORBUNOV, I.I.; KOVALEV, A.M.; ROMANCHENKO, G.R.; BRODSKAYA,  
M.L., red.; IVANOVA, A.N., red.; GUREVICH, M.M., tekhn. red.;  
TRUKHINA, O.N., tekhn. red.

[Economics of agriculture] Ekonomika sotsialisticheskogo sel'-  
skogo khoziaistva; kurs lektsii. Moskva, Sel'khozizdat, 1962.  
710 p. (MIRA 15:10)

(Agriculture—Economic aspects)

BABIY, L.T., kand. sel'khoz. nauk; KRYLOV, V.S., kand. sel'khoz. nauk; KRIKUN, A.A., Geroy Sotsialisticheskogo Truda, kand. sel'khoz. nauk; STOLYAR, T.A., kand. sel'khoz. nauk; KARYUKINA, K.I., kand. sel'khoz. nauk; PLAUNOV, P.A., kand. ekon. nauk; IVANOVA, A., red.; SERGEYEVA, V., red.

[The economics and organization of poultry raising] Ekonomika i organizatsiia pitsevodstva. Moskva, Izd-vo "Kolos," 1964. 357 p. (MIRA 18:2)

BABIY, M. S., Cand Agr Sci -- (diss) "Agrobiological Evaluation  
of ~~the~~ Varieties of ~~Plums~~ <sup>Plums</sup> in Moldavia and Their Suitability<sup>ity</sup>  
for Industrial Production of ~~Dried~~ Prunes." Kishinev, 1957.  
16 pp (Min of Agriculture USSR, Kishinev Agricultural Inst im  
M. V. Frunze), 100 copies (KL, 48-57, 107)

- 43 -

*BABIY, P.*  
BABIY, P.

Improved methods for controlling mice. Muk.-elev.prom. 23 no.5:3 of cover  
My '57. (MLRA 10:9)

1. Stanislavskaya kontora Ukglavverno.  
(Rodent control)

BABIY, P.T., inzh.; SOKOLOV, V.M., inzh.

Developing a rotary cultivator for peat bog soils. Trakt. i sel'-  
khoz mash. no.3:21-25 Mr '58. (MIRA 11:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii i ele-  
ktrifikatsii sel'skogo khozyaystva.  
(Cultivators)

BABIY, P. T., CAND TECH SCI, "<sup>study</sup>INVESTIGATION OF<sup>the</sup> STABILITY  
OF MOTION OF WORKING PARTS OF CULTIVATORS." KIEV, 1961.  
(MIN OF AGR UKSSR, UKRAINIAN ACAD OF AGR SCI). (KL, 3-61,  
213).

ZELIGMAN, S.B. [Zelikhman, S.B.], kand.tekhn. nauk; BABIY, P.T. [Babii, P.T.],  
inzh.

Sizing sunflower seeds. Mekh. sil'. hos. 9 no.4:15-16 Ap '58.  
(Sunflowers) (Seed industry) (MIRA 11:5)

ZELIGMAN, S.B., kand. tekhn. nauk; BABIY, P.T., inzh.

Mechanized field grain-cleaning barns. Mekh. sil'. hosp. 9  
no. 6:5-6 Je '58.

(MIRA 11:7)

(Ukraine--Grain--Cleaning)



BABIY, P.T. [Babii, P.T.], starshiy nauchnyy sotrudnik; SAVICH, P.V.  
[Savych, P.V.], starshiy nauchnyy sotrudnik

A new method for the placement of herbicides. Mekh. sil'. hosp.  
14 no.4:15-16 Ap '63. (MIRA 16:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii i  
elektrifikatsii sel'skogo khozyaystva.

SKVIRSKAYA, E.B. [Skvirs'ka, E.B.]; BABIY, T.P. [Babii, T.P.]

Comparative data on the composition of nucleic acids in the nervous system of cows. Ukr.biokhim.zhur. 31 no.6:859-867 '59.

(MIRA 13:5)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiev.

(NUCLEIC ACIDS)

BABY, T. P., Cand Biol Sci -- "Certain data on the metabolism of proteins, nucleinic acids, and other phosphorus-containing compounds in the sciatic nerve of animals." Kiev, 1960 (Acad Sci UkrSSR. Department of Biol Sci). (KL, 1-61 , 186)

-107→

SKVIRSKAYA, E.B. [Skvyrs'ka, E.B.]; BABIY, T.P.

Composition and metabolism of nucleic acids in functionally different parts of the nervous system and in the brain of animals of different age. Ukr. biokhim. zhur. 33 no.5:647-656 '61, (MIRA 14:10)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiyev.  
(NUCLEIC ACID METABOLISM) (NERVOUS SYSTEM)

BABIY, T.P. [Babii, T.P.]; SKVIRSKAYA, E.B. [Skvyrs'ka, E.B.]

Effect of ultrasound on the activity of depolymerases of brain nucleic acids. Ukr.biokhim.zhur. 34 no.6:807-819 '62.

(MIRA 16:4)

1. Institute of Biochemistry of the Academy of Sciences of the Ukrainian S.S.R., Kiev.

(ULTRASONIC WAVES—PHYSIOLOGICAL EFFECT)

(NUCLEIC ACID METABOLISM)

(BRAIN)

L 55910-65

ACCESSION NR: AP5018267

UR/0300/64/036/006/0848/0854

AUTHOR: Skvyrs'ka, E. B. (Skvirskaya, E. B.); Babi, T. P.; Kovalenko, M. Y. (Kovalenko, M. I.)

TITLE: Study of the alkaline fraction of ribonucleic acid in the brain of rabbits

SOURCE: Ukrayins'kyi biokhimichnyy zhurnal, v. 36, no. 6, 1964, 848-854

TOPIC TAGS: experiment animal, brain, encephalology, ribonucleic acid, isotope, phosphorus, radiology, biochemistry

Abstract: Rabbit brain tissue was used to determine the properties of the alkaline fraction of cerebral ribonucleic acid. Radioactive phosphorus was injected intracisternally into the brain of the rabbits in doses of 0.05 microcuries per gram body weight. The animals were sacrificed within 15 hours after the administration of the isotope. The brain tissue was then processed with phenol, and two ribonucleic acid fractions were obtained: an acid fraction with a pH value of 4.8, and an alkaline fraction with a pH value of 7.5. The alkaline ribonucleic acid was then fractionated by adsorption on carbon under different conditions (first, second and third carbons). The adsorbed acid was then extracted by phenol, the eluates were studied for the content, radioactivity, and

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L 55910-65

ACCESSION NR: AP5018267

nucleotide composition of the ribonucleic acid. It was found that the main quantity of the acid was adsorbed on the first two carbons; only 18 percent was adsorbed on the third carbon. The specific radioactivity of ribonucleic acid adsorbed on the third carbon was considerably greater than that adsorbed on the first two carbons. The nucleotide composition of the alkaline and other ribonucleic acids indicated that they are of the AU type. Orig. art. has 1 figure and 4 tables.

ASSOCIATION: Instytut biokhimiyi Akademiyi nauk Ukrayins'koyi RSR, Kiev  
(Institute of Biochemistry; Academy of Sciences, Ukrainian SSR)

SUBMITTED: 18Apr64

ENCL: 00

SUB CODE: 1S, GC

NO REF SOV: 009

OTHER: 003

JPRS

Card 2/2

BABIY, T.P.; SKVIRSKAYA, E.B. [Skvyrs'ka, E.B.]; KOVALENKO, M.I.

RNA fractions of the brain in animals of different ages. Ukr.  
biokhim. zhur. 37 no.1:33-42 '65. (MIRA 18:5)

1. Institute of Biochemistry of the Academy of Sciences of the  
Ukrainian S.S.R., Kiev.



KHUDOYAN, T.S.; SHAROV, A.; CHIRKOV, I. (Stalinsk, Kemerovskaya oblast');  
 KHAUSTOV, S. (g.Novoshakhtinsk); ARKHIPOV, V., avtomatchik;  
 SHEVCHENKO, B.; GETMANSKAYA, Ye.; SUMTSOV, I.; KURDYUKOVA, L.,  
 doyarika; BABIY, V. (Chernovitskaya oblasti); MAKAROV, N.;  
 SOKOLOV, K.; SINITSKIY, N.

Letters to the editor. Sov. profsoiuzy 17 no. 5:35-39 Mr '61.  
 (MIRA 14:2)

1. Zaveduyushchiy otdelom truda i zarplaty respublikanskogo  
 sovprofa Armenii (for Khudoyan). 2. Staleprokatnyy zavod,  
 Leningrad (for Arkhipov). 3. Predsedatel' pravleniya kluba  
 sovkhoza "Krasnyy Oktyabr'," Voronezhskoy oblasti (for Shevchenko).  
 4. Chleny pravleniya kluba sovkhoza "Krasnyy Oktyabr'," Voronezh-  
 skoy oblasti (for Getmanskaya, Sumtsov). 5. Sovkhoz "Krasnyy  
 Oktyabr'," Voronezhskoy oblasti (for Kurdyukova). 6. Predsedatel'  
 tsekhkoma kotel'no-svarochnogo tseka Vol'skogo zavoda "Metallist"  
 (for Makarov). 7. Predsedatel' postroykoma Stroitel'nogo uchastka  
 No. 2, g.Gagra, Gruzinskaya SSR (for Sinitskiy).  
 (Trade unions) (State farms)

BABIY, V. (Ivano-Frankovskaya obl., UkrSSR)

Life dedicated to art. Mest.prom.i khud. promys. 3 no.1:36 Ja '63.

(MIRA 16:2)

(Ukraine--Pottery)

(Tsvilyk, Pavlina Iosifovna, 1892-)

BABIY, V.I.; SUKHOVEY, A.G.

Triplex radio interferometer. Izv. vys. ucheb. zav.; radiofiz.  
5 no.4:799-801 '62. (MIRA 16:7)

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR.  
(Interferometer) (Radio astronomy--Equipment and supplies)

BABIY, V.I.

Choice of the time constant of a radio interferometer. Izv. vys.  
ucheb. zav.; radiofiz. 5 no.4:801-802 '62. (MIRA 16:7)

1. Fizicheskiy institut im. P.N.Lebedeva AN SSSR.  
(Interferometer) (Radio astronomy)

S/033/62<sup>39538</sup>/039/004/004/008  
E032/E514

3.1720

AUTHORS: Alekseyev, Yu.I., Babiy, V.I., Vitkevich, V.V.,  
Gorelova, M.V. and Sukhovey, A.G.

TITLE: Observations of solar radio-emission in the metre  
range during the total solar eclipse of February 15,  
1961

PERIODICAL: Astronomicheskiy zhurnal, v.39, no.4, 1962, 643-652

TEXT: The observations were carried out at the Krymskaya  
nauchnaya stantsiya laboratorii radioastronomii FIAN (Crimean  
Scientific Station of the Radioastronomical Laboratory of FIAN)  
using the multichannel radiospectrograph described earlier  
(V.V.Vitkevich, Z.I.Kameneva, D.V.Kovalevskiy, Radiotekhnika i  
elektronika, 1, No.6, 864, 1956; V.V.Vitkevich, Tr.5 soveshchaniya  
po voprosam kosmogonii 9-12 marta 1955 g., Radioastronomiya,  
Izd-vo AN SSSR, 1956, p.14). Various improvements have recently  
been introduced into this spectrograph and its wavelength range  
extended. The working range is 40-150 Mc/sec. There are  
sixteen channels and the sensitivity in each channel is  
 $10^{-22}$  W/m<sup>2</sup> cps. Detailed results are now reproduced in the form  
Card 1/2

Observations of solar ...

S/033/62/039/004/004/008  
E032/E514

of graphs for the 1.5-4 m range. Analysis of the results is used to determine the radio diameter of the sun which is found to be:

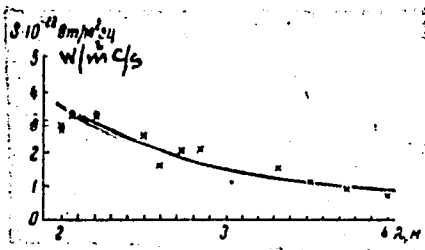
$$D_p = 0.035\lambda^2 - 0.035\lambda + 1.28,$$

where  $\lambda$  is in metres and  $D_p$  is in units of the optical diameter of the sun. Fig.9 shows the dependence of the intensity of solar radiation on wavelength. The computed effective radio temperature turned out to be practically the same for all wavelengths ( $7.5 \times 10^2$  °K). There are 9 figures and 1 table.

ASSOCIATION: Fizicheskii in-t im. P.N.Lebedeva Akademii nauk SSSR  
(Physics Institute imeni P.N.Lebedev, AS USSR)

SUBMITTED: September 6, 1961

Fig.9



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ACCESSION NR: AP4040909

S/0109/64/009/006/0960/0965

AUTHOR: Babiy, V. I.; Vitkevich, V. V.

TITLE: Radiointerferometer with frequency multiplication

SOURCE: Radiotekhnika i elektronika, v. 9, no. 6, 1964, 960-965

TOPIC TAGS: radioastronomy, radiointerferometer, Crab Nebula, two antenna radiointerferometer

ABSTRACT: When the signal-to-noise ratio is not very low, the resolution of a radiointerferometer may be raised by frequency multiplication. The gain in the signal-to-noise ratio due to frequency multiplication is theoretically evaluated for the case of a 2-antenna interferometer. An experimental verification was performed with a 2-antenna interferometer having these characteristics: wavelength, 5 m; base, 150  $\lambda$  oriented east-west; lobe angle,  $23^{\circ}2'$ ; stationary-paraboloid antennas had an effective area of 200 m<sup>2</sup> each; quartz-controlled

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ACCESSION NR: AP4040909

heterodyne frequency, 53 mc; first IF, 7 mc; IF multiplication was used. Crab Nebula r-f radiation was recorded. The system is claimed to be suitable for determining the coordinates and size of radio sunspots and flares. Orig. art. has: 3 figures and 6 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Institute of Physics, AN SSSR)

SUBMITTED: 28Mar63

ENCL: 00

SUB CODE: EC, AA

NO REF SOV: 007

OTHER: 003

Card 2/2



BABIY, V.I.; VITKEVICH, V.V.; VLASOV, V.I.; GORELOVA, M.V.; SUKHOVEY, A.G.

The solar supercorona from observations made during 1959-1963.  
Astron. zhur. 42 no.1:107-116 Ja-F '65.

(MIRA 18:2)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR.

ACC NR: AT6023561

(N)

SOURCE CODE: UR/3095/66/036/000/0146/0162

AUTHOR: Babiy, V. I.

ORG: None

TITLE: Some questions of measuring current velocity by the doppler method

SOURCE: AN UkrSSR. Morskoy gidrofizicheskiy institut. Trudy, v. 36, 1966. Metody i pribory dlya issledovaniya fizicheskikh protsessov v okeane (Methods and instruments for studying physical processes in the ocean), 146-162

TOPIC TAGS: doppler effect, doppler velocity meter, electromagnetic field, oceanography, oceanographic equipment, oceanographic instrument

ABSTRACT: Velocity field measurement is one of the fundamentals in investigating hydrodynamic processes in oceans and sea, and while there are a great many methods for so doing, the one which measures the flow velocity relative to an instrument based on registration of doppler displacements of frequencies radiated in dispersed water, is worthy of mention. While the method has definite advantages and the measurement is made at some distance from the instrument so that the volume measured is not disturbed, actually making use of the advantages is quite difficult. The manner in which measurements are made is analyzed mathematically, using already published works, titles of which are provided in an appended bibliography, as the basis.

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ACC NR:AT6023561

Schematic diagrams of doppler measuring devices, as well as installations for measuring the spatial correlation of the velocity field, are shown, and the methods used to obtain spatial selectivity are considered. The conclusion is that questions of registering, processing, and analyzing signals from doppler measuring devices used to record current velocity require further specialized consideration. Orig. art. has: 14 formulas and 5 figures.

SUB CODE: 08/SUBM DATE: None/ORIG REF: 008/OTH REF: 007

Card 2/2

BABIY, V. I.

Dissertation: "Investigation of the Effect of Pressure on the Process of Gas Formation in a Coal Seam." Cand Tech Sci, All-Union Order of Labor Red Banner Sci Res Heat Engineering Inst imeni F. E. Dzerzhinskiy, 5 May 54. (Vechernyaya Moskva, Moscow, 26 Apr 54)

SO: SUM 243, 19 Oct 1954

BABIY, V. I.

AID P - 2390

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 4/15

Author : Babiy, V. I., Kand. Tech. Sci.

Title : ~~RESEARCH ON EFFECTS OF PRESSURE ON CARBON DIOXIDE REDUCTION~~  
Research on effects of pressure on carbon dioxide reduction  
in gasification of a coal layer

Periodical : Teploenergetika, 7, 20-24, J1 1955

Abstract : A mathematical analysis of the reduction of the CO<sub>2</sub> in a layer of coal is presented. Details of changes in the coal content according to the height of the burnt layer are shown in curves. The author reports on the results of this analysis and finds the relation between the combustion rate, the thickness of the layer, and the draft speed. He maintains that an increase in pressure brings about a decrease in the combustion speed. Seven diagrams. Two Russian references, 1949 and 1954; one English, 1951.

Institution: All-Union Heat Engineering Institute

Submitted : No date

*BRBIY, V.I.*

USSR /Chemical Technology. Chemical Products  
and Their Application

I-15

Treatment of solid mineral fuels

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31849

Author : Kolodtsev Kh. I., Babiy V. I.

Inst : All-Union Power Engineering Institute

Title : High-Intensity Gasification of Solid Fuel for  
Gas Turbine Units

Orig Pub: Teploenergetika, 1956, No 9, 18-24

Abstract: Various procedures of utilizing solid fuel for  
gas turbine units are considered, and a substan-  
tiation is provided of the procedure, developed  
at the All-Union Institute of Power Engineering,  
of furnace gasification of solid fuel under pressure,

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USSR /Chemical Technology. Chemical Products  
and Their Application

I-15

Treatment of solid mineral fuels

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31849

with liquid slag removal. A technological scheme and a description are given of an experimental unit having a fuel output capacity of 250 kg/hour and designed to operate at a pressure of up to 8 atmospheres. Results are reported of gasification experiments conducted with this unit, using anthracite and coke in 10-50 mm lumps at fuel loads of 1000-1600 kg/m<sup>2</sup>/hour and pressures from 3 to 7 atmospheres absolute; heating value of the gas obtained on blowing with air is 900-9500 kcal/n-m<sup>3</sup>, yield of liquid slag is 70-90% of the weight of the fuel ash. Designs of gas generator with steam-water and air cooling of the walls are

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USSR /Chemical Technology, Chemical Products  
and Their Application

I-15

Treatment of solid mineral fuels

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31849

shown and it is pointed out that the thermal stress of such generators amounts to 10 million kcal/m<sup>2</sup>/hour, i.e., is 10-12 times higher than in modern heating and gas-generator devices; a gas turbine unit with a power rating of 25000 kilowatts and an efficiency of about 30%, requires one gas generator 3 m in diameter.

Card 3/3



BABIY, V.I.

~~XXXXXXXXXX~~  
Temperature distribution in a filtering layer under conditions of  
heat exchange with the external medium. Inzh.-fiz.zhur. no.5:11-15  
My '58. (MIRA 12:1)

1. Vsesoyuznyy teplotekhnicheskii institut imeni F. Dzerzhinskogo, g.  
Moskva.

(Heat--Transmission) (Gas flow)

*BABIY, V.I.*

SOV/96-58-5-5/27

AUTHORS: Kolodtsev, Kh.I., Candidate of Phys.-Math. Sciences  
and Babiy, V.I., Candidate of Technical Sciences

TITLE: High-intensity Gasification of Coal Dust in a Layer of  
Lump Fuel Under Pressure (Vysokointensivnaya gazifikatsiya  
ugol'noy pyli v sloye kuskovogo topliva pod davleniyem)

PERIODICAL: Teploenergetika, 1958, nr 5, pp 25 - 31 (USSR).

ABSTRACT: The All-Union Thermo-technical Institute has developed  
a new type of high-intensity gas generator for gas-turbine  
installations. It works under pressure with continuous liquid  
slag removal and has been described in Teploenergetika, 1956,  
Nr. 9. Although it has advantages, its field of application is  
limited because it requires fuel in lumps. It could be much  
more widely used if low-grade fuel, particularly dust, could be  
used in it.

The laboratory of the physics of combustion has developed a  
method of combined burning and gasification of coal dust in a  
layer of lump fuel by adapting forge-hearth techniques. The  
coal dust is delivered, together with the air blast, directly  
into the layer of hot lumps of fuel: in this arrangement, the  
motion of the particles and the conditions of burning are very  
different from those occurring in an ordinary furnace or in  
Cardl/8 cyclone combustion. The coal dust burns and is gasified on

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High-intensity Gasification of Coal Dust in a Layer of Lump Fuel  
Under Pressure

the surfaces of the lumps and high temperatures of 1,700 - 1,800 °C are reached. Under these conditions of burning, the consumption of lump fuel can be very small because the coal dust delivered with the draught and deposited on the surface of the lump is rapidly heated up and burnt and thus, to a large extent, prevents any reaction by the lump fuel. The first tests on this method of combustion demonstrated its effectiveness but more detailed investigation could be undertaken only after completion of work on the high-intensity gasification of lump fuel and the development of an effective design of gas generator.

The organisation and conduct of the experiments is then described. The tests with coal dust were made on the existing experimental installation with capacity up to 350 kg/hr of fuel. It was fitted with a fuel feeder and also with arrangements to deliver an air/fuel mixture. A diagram of the installation is given in Figure 1, which also shows the position of sampling points and measuring equipment. The high temperatures developed in the furnace liquefy the ash. The gasification products formed move through a layer of fuel and become enriched with carbon

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High-intensity Gasification of coal Dust in a Layer of Lump Fuel  
Under Pressure

monoxide by the reduction of carbon dioxide on the fuel surface. A little of the gas leaves with the slag but is separated from it and passed to the gas main. All the tests were made with cold-air blast at an almost constant flow of 1,330 kg/hr and, except where mentioned below, at a pressure of 5 atm. In the tests, the consumption of coal dust ranged from 0 to 255 kg/hr and the consumption of lump fuel from 315 to 105 kg/hr. Altogether, 26 tests were made using dust from lean coal and anthracite with various degrees of milling and ash content. The characteristics of the fuels are given in Table 1. The measurements made are fully described. As there were no reserve bunkers, the tests could not exceed four hours' duration. Although the blast was cold, combustion and liquid slag removal took place normally as in the previous tests without air delivery. From the test results that were obtained, it was possible to determine the basic characteristics of this new but still imperfect process. These characteristics include primarily the degree of combustion of dust and the ratio of the combustion of lump to that of pulverised fuel for a given

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## High-intensity Gasification of Coal Dust in a Layer of Lump Fuel Under Pressure

load; also, the composition of the gas, its dust content before and after cyclone treatment, the nature of the carry-over, the output of cold slag and so on. Four tests were made at pressures of 3.5 and 7 instead of 5 atm. but were, of course, insufficient to establish the effect of pressure on combustion under these conditions. Figures for the dust content of the gas before and after cyclone precipitation are shown in Figure 2. Up to a fuel delivery rate of about 100 kg/hr, the dust content of the generator gas remains approximately constant at about 15 g/m<sup>3</sup>, but further increase in the rate of delivery increases the dustiness of the gas, indicating a carry-over of unconsumed material. The data given in Figure 2 relate to two different grades of coal and two very different fractional compositions of the pulverised fuel. The small effect of these variations on the results will be noted. The fractional composition of the material trapped in the cyclone, given in Table 2, may be compared with the corresponding figures for the initial fuel given in Table 1. The order of magnitude of the particles in the carry-over is the same when using fuels ground to different degrees of fineness. Figure 3 relates the

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## High-intensity Gasification of Coal Dust in a Layer of Lump Fuel Under Pressure

ash content of the material trapped by the cyclone to the fuel consumption. The ash-content is appreciably reduced as the fuel delivery rate is increased, indicating that the proportion of unburned material increases. Figure 6 shows the relationship between the consumption of lump and pulverised fuel.

In analysing the above conditions of combustion, it should be remembered that the air flow was maintained practically constant throughout the experiment and therefore the excess-air ratio varied from one test to another. These ratios are also recorded in Figures 4 and 5.

Despite considerable carry-over of unburnt coal, the pulverised fuel was intensively gasified and even quite a thin fuel layer, of the order of 0.5 m, gives a gas of practically the same fuel value as that obtained by gasifying lump coal. The combustible content of most of the gas was: Co 22-23%,  $H_2$  3-4%,  $CH_4$  0.4-0.8%. The concentration of  $CO_2$  was about 7% and the calorific value of the gas is about  $850 \text{ kcal/m}^3$ . Since the gas that passes down with the slag is of high  $CO_2$

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High-intensity Gasification of Coal Dust in a Layer of Lump Fuel Under Pressure

content, the gas delivered to the collector after mixing of the two flows has a calorific value of  $750-800 \text{ kcal/m}^3$ . If this gas is immediately used in a gas-turbine installation, the somewhat reduced calorific value does not affect the efficiency of the installation or the conditions of combustion of the gas since it is at a temperature above  $1000^\circ \text{C}$ . The  $\text{CO}_2$  content of the gas for various rates of delivery of pulverised fuel is plotted in figure 7 and the output of ash and slag as a function of the pulverised fuel delivery is plotted in figure 8.

The experiments demonstrate that considerable quantities of coal dust, even of such inactive coals as anthracite, can be gasified under pressure at very high rates in a layer of lump fuel. The tests were made in a gas generator that was not specially adapted for the combined process and there was not pre-heating of the blast, yet the amount of anthracite dust gasified was up to 50% of the lump fuel consumption for the same gas purity and with stable slag removal. The greatest pulverised fuel consumption was of the order of 250 kg/hr,

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High-Intensity Gasification of Coal Dust in a Layer of Lump Fuel  
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which was 2 1/2 times the consumption of solid fuel though this gave a somewhat high carry-over of dust. However, because the particles carried over were coarse, they were easily trapped by a cyclone and could be returned to the furnace to improve the efficiency of the process. The tests revealed no appreciable connection between the fractional composition of the coal and the characteristics of the process. Evidently, coal dust can be intensively gasified in a thin layer of lump fuel with only a slight decrease in the calorific value of the gas as compared with that obtained without delivery of pulverised fuel. Alterations in the pressure from 3.5 - 7 atm had practically no influence on the gas composition but somewhat improved the burning of the dust. This new method of combined gasification of lump and pulverised fuel is promising. In designing gas generators for this process, the fuel layer should be fairly deep, to improve the conditions of gas filtration and to extend the reducing zone as far as possible. It may also be useful to arrange for

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High-intensity Gasification of Coal Dust in a Layer of Lump Fuel Under Pressure

pulsating or alternating delivery of dust. The results of the work can find immediate practical application when solid fuel is used, not only in gas-turbine installations but also in certain steam boilers.

There 8 figures, 2 tables and 2 Soviet references.

ASSOCIATION: VTI

Card 8/8

1. Gas generators--Design 2. Gas turbines--Equipment 3. Fuels  
--Combustion 4. Fuels--Control systems 5. Coal--Applications

*Ussoyuznyy teplo tekhnicheskiy  
institut.*

BABIY, V.I.

Dosimeter. Zav.lab. 26 no.5:636-637 '60. (MIRA 13:7)

1. Vsesoyuznyy teploelekhnicheskiy nauchno-issledovatel'skiy  
institut.

(Gas meters)

BABIY, V.I.; IVANOVA, I.P.

Determining the coefficient of resistance of motion of burning  
coal dust. Inzh.-fiz. zhur. 4 no.1:50-57 Ja '61. (MIRA 14:4)

1. Vsesoyuznyy teplotekhnicheskiiy institut imeni F.E.Dzerzhinskogo,  
Moskva.

(Furnaces--Aerodynamics)

(Coal, Pulverized)

KOLODTSEV, Kh.I., kand.fiz.-matem.nauk; BABIY, V.I., kand.tekhn.nauk  
KUSTOVSKIY, S.P., inzh.

VTI gas generator for gas-turbine systems. Teploenergetika  
8 no.4:44-48 Ap '61. (MIRA 14:8)

1. Vsesoyuznyy teplotekhnicheskii institut.  
(Gas turbines)